

Headquarters U.S. Air Force

Integrity - Service - Excellence

AFI 99-103

Capabilities-Based Test & Eval



**HQ USAF/TE
Directorate of Air Force
Test & Evaluation**

U.S. AIR FORCE



U.S. AIR FORCE

Purpose

- **AF T&E Policy Development**
- **Seamless Verification Concept**
- **Discuss Other AF T&E Policy Updates**



U.S. AIR FORCE

HQ AF/TE

AF T&E Policy OPR

Directorate of Test and Evaluation



AF/TE

Director, Mr. Manclark

Deputy Director, Mr. Hamilton

Policy and Programs

AF/TEP

Chief, Col Tye

- Test Policy
- Test Programs

Special Programs

AF/TEZ

Chief, Mr. Altman

Resources and Infrastructure

AF/TER

Chief, Ms. Grace

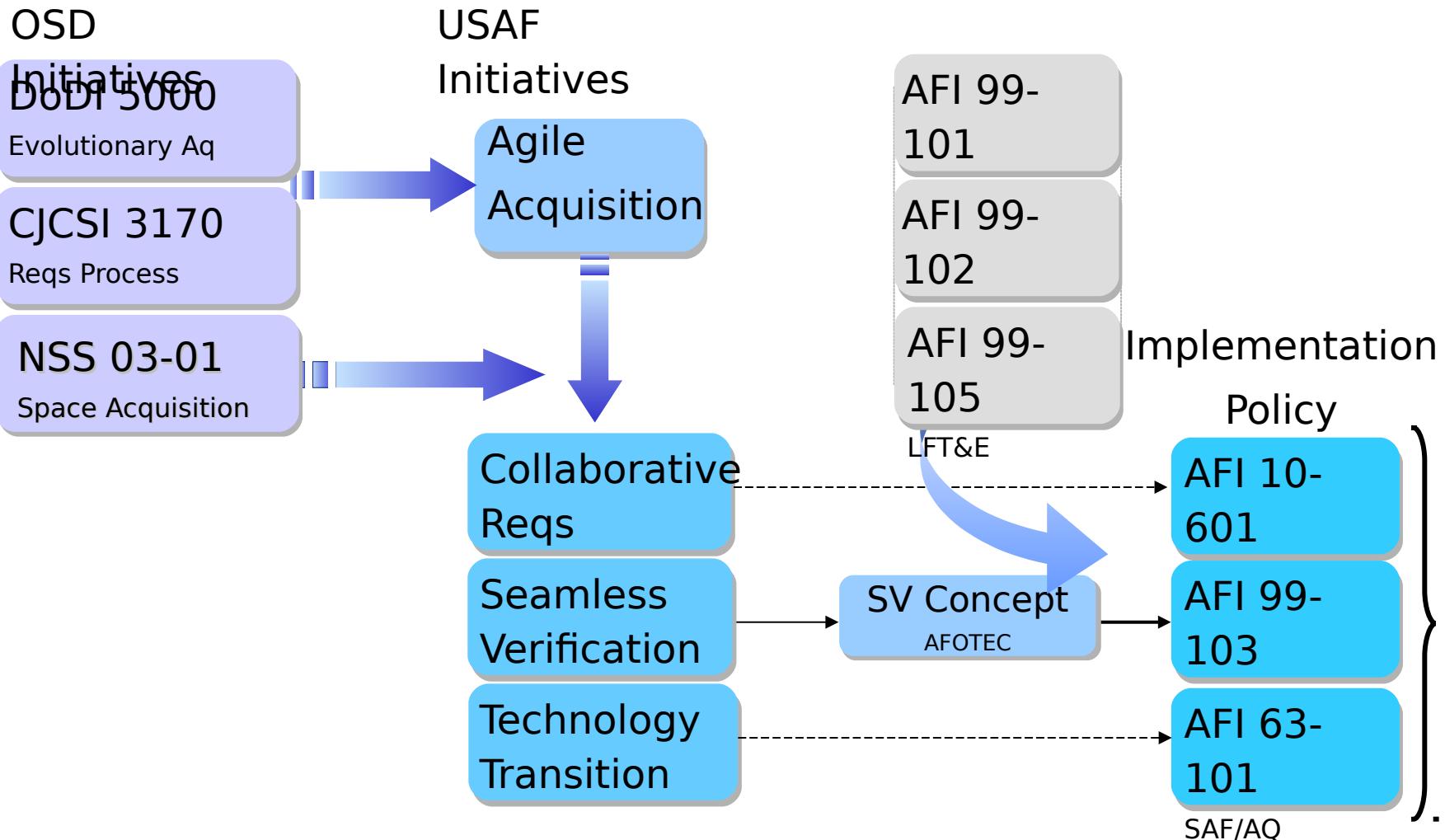
- FM Policy
- FM Programs

- Test Resources
- Test Infrastructure



T&E Policy Development

U.S. AIR FORCE





U.S. AIR FORCE

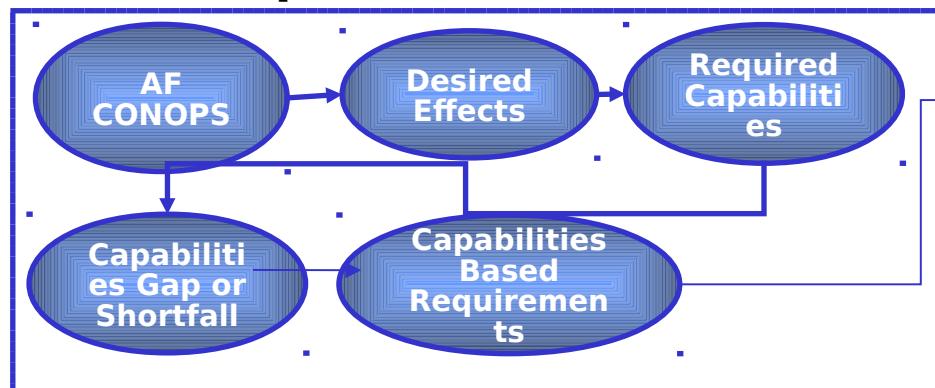
Seamless Verification Concept



U.S. AIR FORCE

Capabilities-Based T&E

Requirements Process



Acquisition Program

Integrated T&E Process

Fielded War Fighter Capability

Integrated T&E Purposes

- Reduce program risk
- Feedback to developer (vector checks)
- Refine requirements
- Verify capabilities achieved



U.S. AIR FORCE

Evolution of T&E Approaches

Traditional (Past)



Combined Testing (Better)



Seamless Verification = Integrated Testing (New)

Tester Involvement in Requirements Development Process

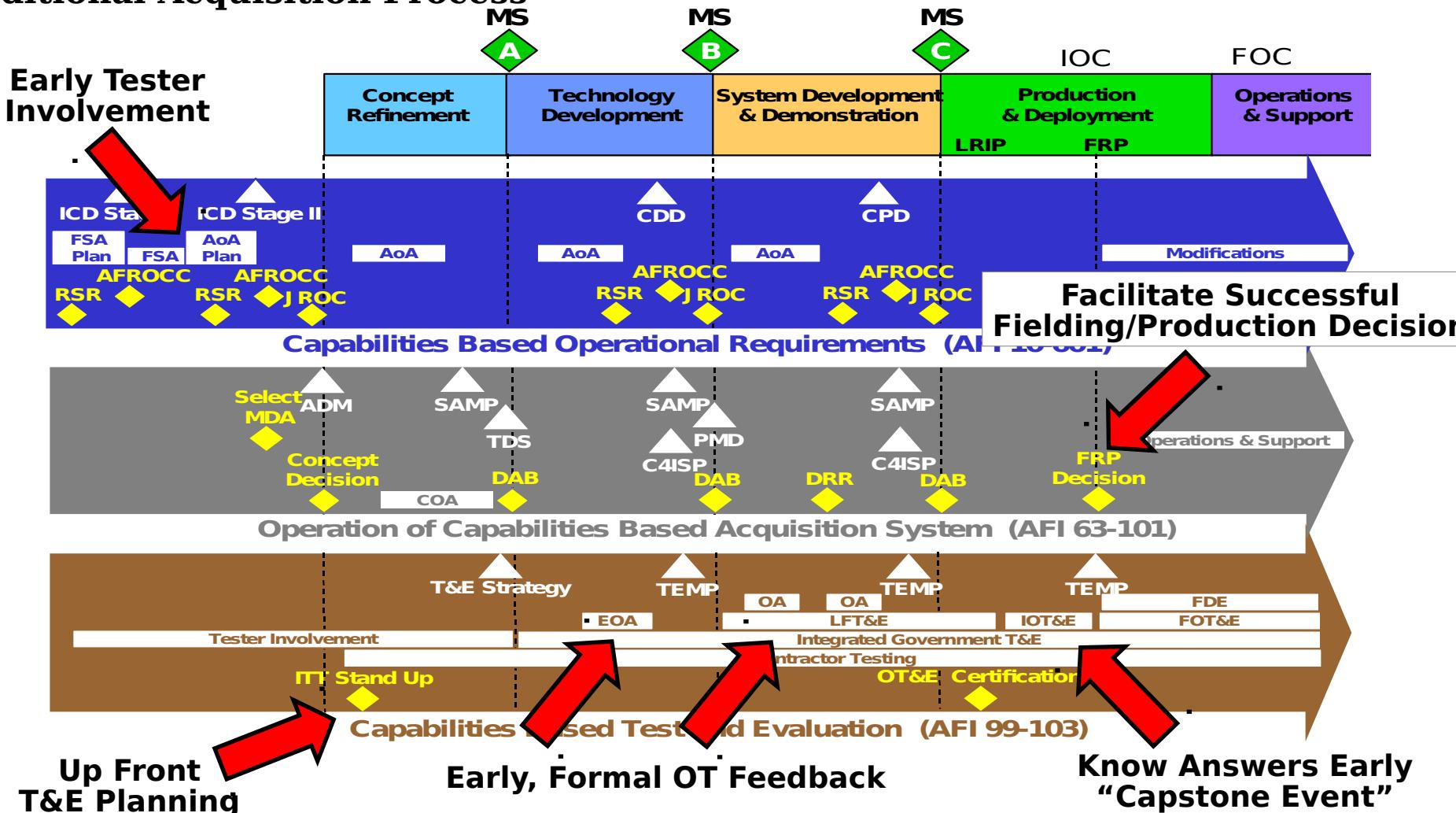


Entire T&E program **planned** as integrated “seamless” process from Day



Seamless Verification = Integrated Testing

Traditional Acquisition Process





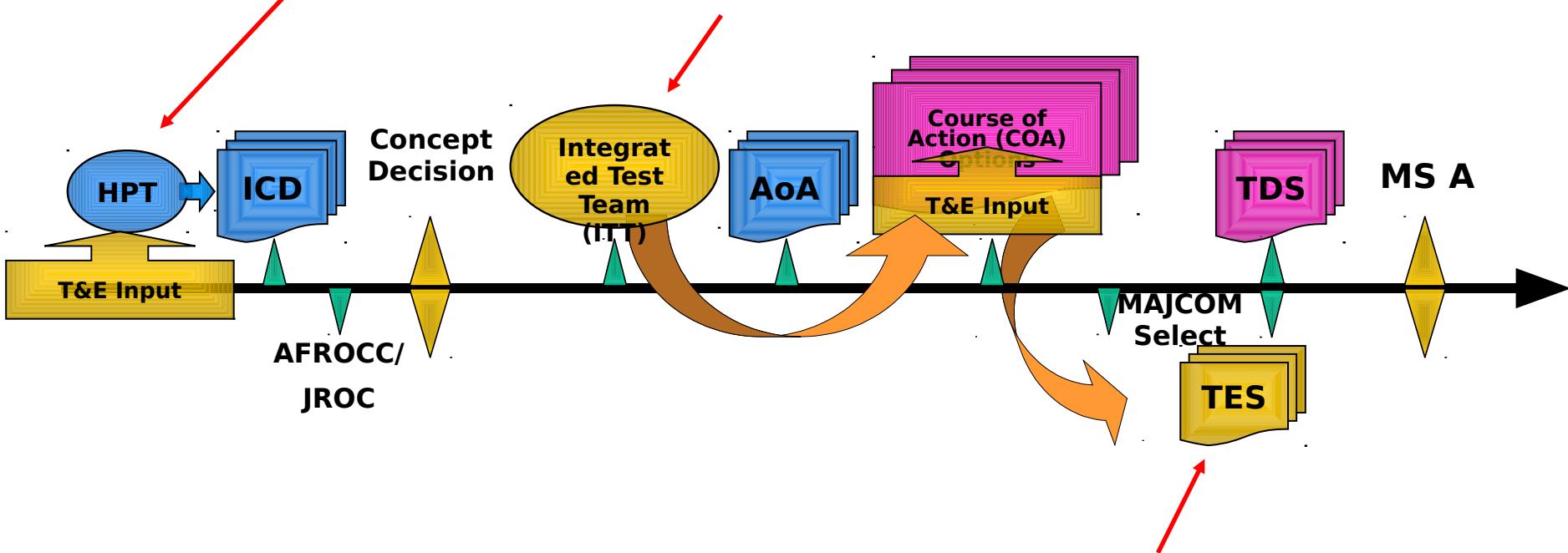
U.S. AIR FORCE

Early Test Involvement

Pre-MS A: Concept Refinement

Shape testable requirements & identify potential test resources

- ADM-directed
- Chartered by PM
- All T&E stakeholders tasked to build TES



Early strategy to integrate T&E activities

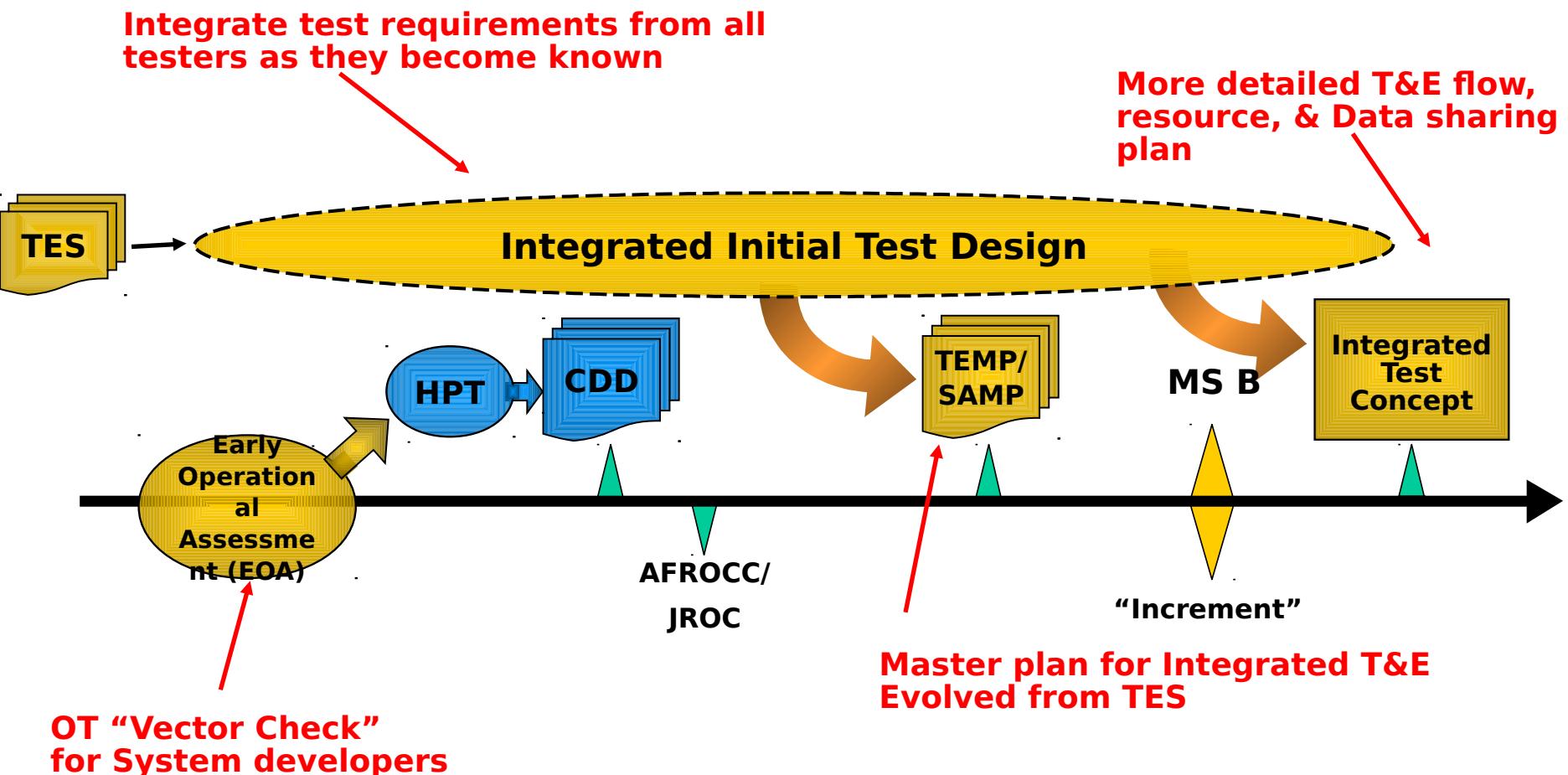
- Resource & data sharing approach
- Plan for T&E to shape program direction



U.S. AIR FORCE

Integrated Test Planning

MS A-B: Technology Development



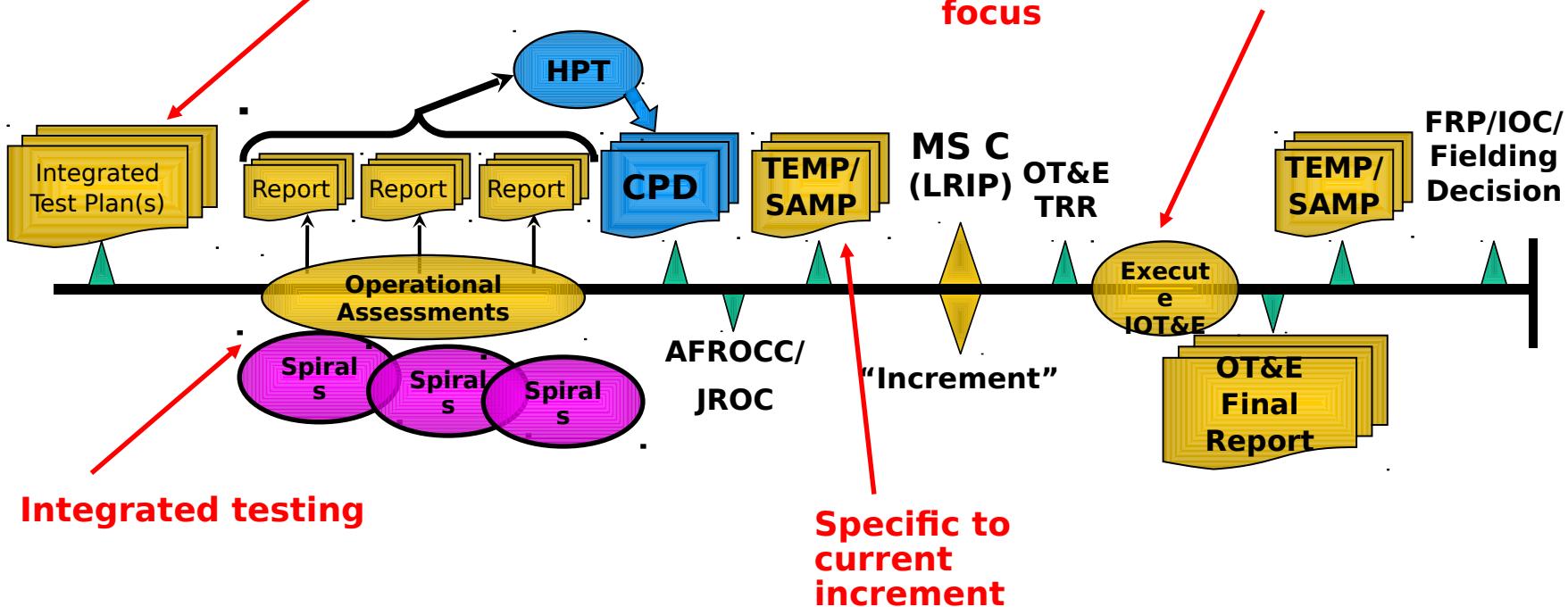


U.S. AIR FORCE

Test Execution

MS B-C: System Dev & Sustainment

All contractor & gov't detailed test plans
Integrated into single flow





U.S. AIR FORCE

AFI 99-103

Additional T&E Policy

~~Clarifications~~

- Clearly stated policy that **all AF systems require OT** prior to fielding
- **AFOTEC** established as required first choice to conduct all OT&E
- **MAJCOM-led OT role in support of acquisition pgms** clearly stated when AFOTEC is not involved
- Requires **MAJCOM T&E policy** implementing SV concepts for MAJCOM-managed system mod and sustainment programs

✗

✓

✗

✓

✗

✓

✗

✓



U.S. AIR FORCE

“Other” T&E Efforts

- **AFI 99-103 Primary Focus:**
 - **Formal AF Acquisition Programs**
- **However, SV Concept Applies to ALL AF T&E Efforts**
 - **MAJCOM-managed acquisitions**
 - **Modification and sustainment programs (F1067 Mods)**
- **AFI 99-103 requires establishment of MAJCOM T&E policy**
 - **Should govern these “other” activities**
 - **Must be consistent with AFI 99-103 SV intent**



U.S. AIR FORCE

Next Steps

- **Sign AFI 99-103: Jun 04 (Currently out as Interim Guidance)**

- **MAJCOMs and AFOTEC Implement Policies:**
 - AFMC AFMCI 99-103 Proposed
 - AFOTEC AFOTECP 99-103 In Revision
 - ACC ACCI 99-101 Minor Revisions?
 - AMC AMCI 99-101 In Revision
 - AFSPC AFPSCI 99-103 Proposed
 - AFSOC AFSOCI 99-103 In Revision
 - AETC AETC 99-103 Supp Proposed

- **AF T&E Guidebook (Summer 04)**
 - Companion to AFI 99-103 w/ additional info, templates, etc.



Implementation Challenges

U.S. AIR FORCE

- **Very Early Tester Involvement: Pre-MS A / KDP-A**
 - Tester support for requirements process (RSR, AoA, ICD)
 - ITT formation / T&E Strategy development
- **“Integrated Test Design”**
 - Clear stakeholder (CT, DT, OT, OSD, others) T&E requirements
 - Must bring to table early...and be prepared to integrate!
- **Concurrent EA activities (Increments/Spirals)?**
 - Multiple increments/spirals in test at once? Adequate T&E resources?
- **Grandfathering: Gradual application to existing programs**



AFI 99-103

Things to Remember

- AFI 99-103 implements “**Seamless Verification**” concepts
- **Early T&E involvement** is a must do!
- **Formal Integrated Test Team (ITT) required!**
 - **Integrated Test Design** and **data sharing** from Day 1
- **T&E Program (DT and OT) must shape system development** and **requirements refinement**

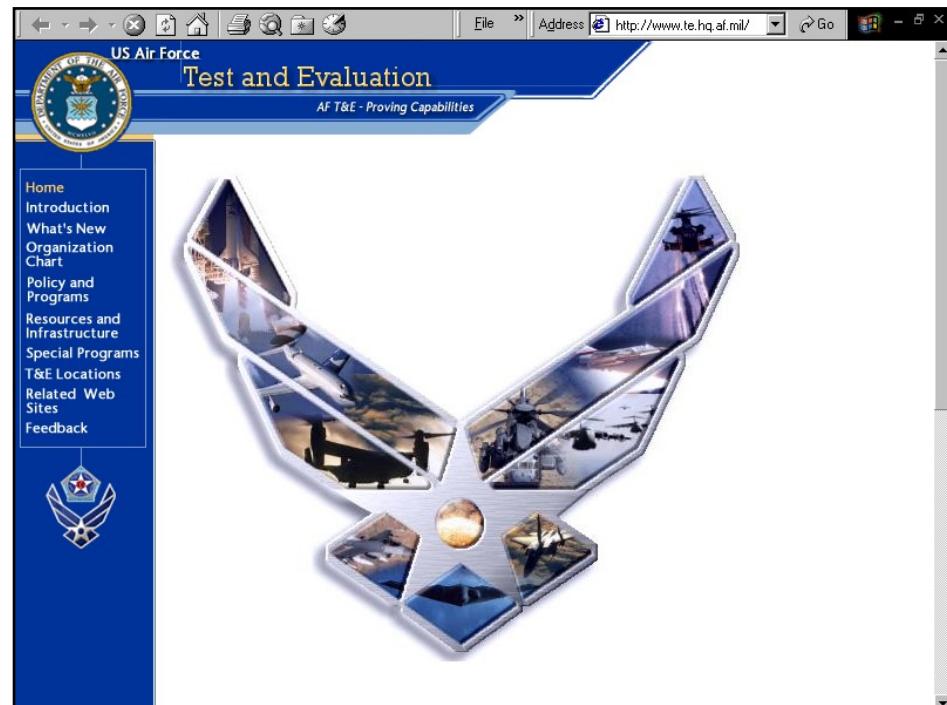
All proven concepts—now adopted as AF policy for ALL T&E programs



U.S. AIR FORCE

Guidance

- **DOD 5000.2, Operation of the Defense Acquisition System**
- **AFI 99-103, Capabilities Based Test and Evaluation (pending)**
- **AF T&E Guidebook (TBD)**
- **MAJCOM/AFOTEC Policy Documents**
- **AF/TE Website**
<http://www.te.hq.af.mil/>





U.S. AIR FORCE

Questions?

Backup



AF T&E Policy POCs

U.S. AIR FORCE

- **Air Staff:** **Lt Col Sam Kyle, AF/TEP, DSN 227-0199**
- **AFOTEC:** **Lt Col Kevin Grill, AFOTEC/XPP, DSN 246-9507**
- **AFMC:** **Lt Col Dave Snyder, AFMC/DOX, DSN 986-0095**
- **ACC:** **Mr. Randy Galloway, ACC/DRPT, DSN 574-7597**
- **AMC:** **Mr. Chet Haines, AMC/TE, DSN 779-2046**
- **AFSPC:** **Lt Col Ratterree, AFPSC/XOTO, DSN 692-9840**
(OT)
Maj Tim Howard, AFSPC/DR SEIO, DSN 692-5689 (DT)
- **AFSOC:** **Mr. Dave Simpson, AFSOC/XPT, DSN 579-3667**
- **AETC:** **Lt Col Bud Brooks, AETC/XP, DSN 487-4555**



Types of “Operational Testing”

U.S. AIR FORCE

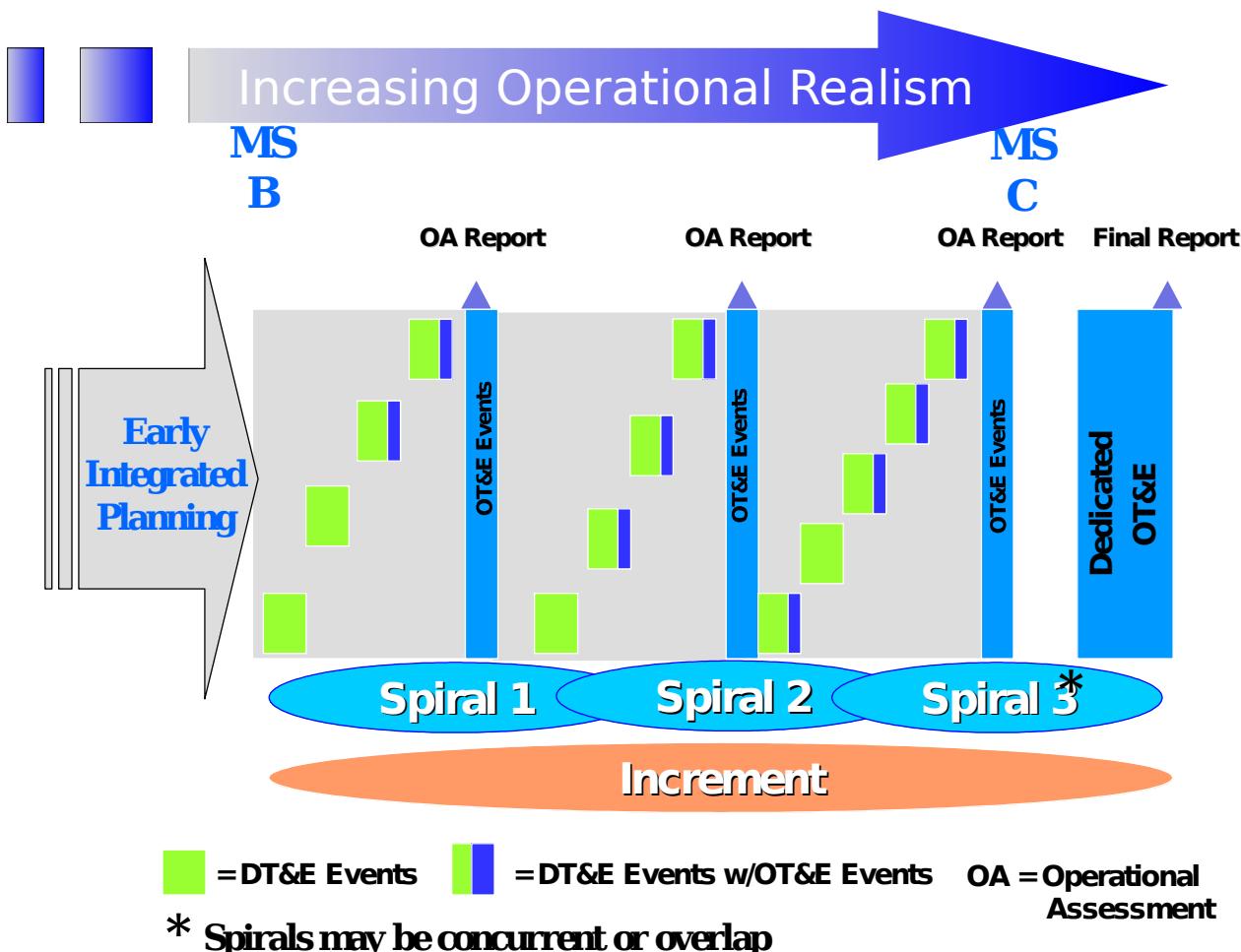
2.6.11. Summary of Operational Testing. The key distinctions between types of operational testing and the decisions that are supported are shown in **Table 2.1**. MAJCOMs will conduct OUEs or FDEs for programs requiring FRP or fielding decisions if AFOTEC elects not to conduct IOT&E, QOT&E, or FOT&E. The results of TD&Es are considered “fielded” when new TTPs are

Type of Operational Testing	ASSESSMENTS		EVALUATIONS	
	QA, T&E	TD&E, QOT&E, FOT&E	IOT&E, QUE	FDE, TD&E, WSEP
Who Conducts	All	AFOTEC	All	MAJCOM
Type Program	All	ACAT I, II, III, OSD T&E Oversight	ACAT III, AF Fm 1067 mods	ACAT III, AF Form 1067 mods
Decision Supported	EOA: MS B OA: MS C, LRIP	FRP, Fielding	FRP, Fielding	FRP, Fielding



U.S. AIR FORCE

Test in Evolutionary Acquisition



- Spirals occur w/in increments
- DT/OT and OAs give vector check to developers
- Flexible capabilities content = flexible test plans
- Potentially resource intensive



U.S. AIR FORCE

Space Test Policy Options Considered

Option #1



Option #2

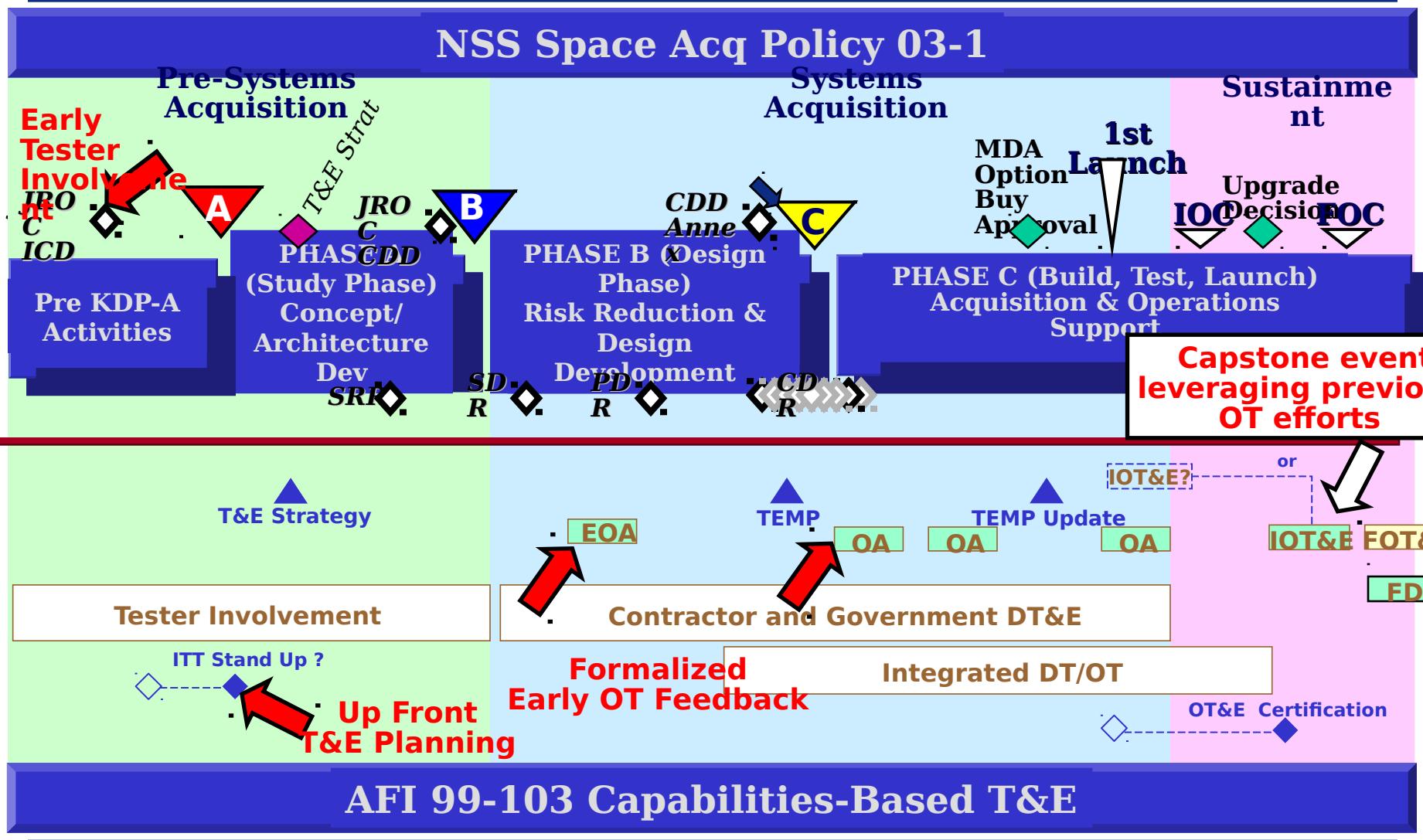


Option #3





Seamless Verification Applied to Small Qty Space Pgms

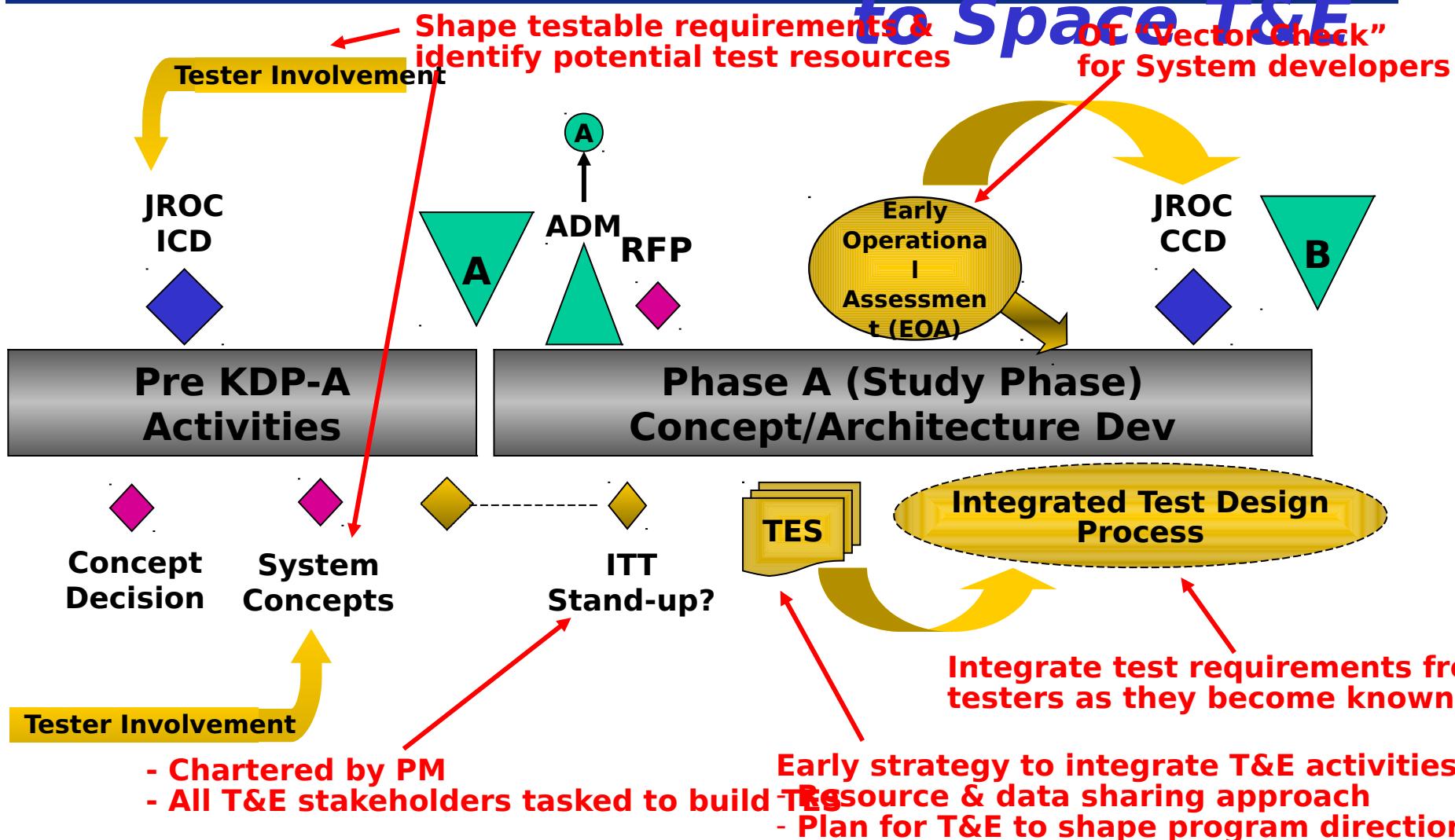




U.S. AIR FORCE

AFI 99-103 Notional Application

to Space T&E





U.S. AIR FORCE

AFI 99-103 Notional Application to Space T&E

